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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

NORRIS, JEREMY C

ART UNIT	PAPER NUMBER
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2827

DATE MAILED: 09/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/026,761

Applicant(s)

SPREAFICO, SERGIO

Examiner

Jeremy C. Norris

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 17-20 is/are rejected.
- 7) ☒ Claim(s) 15 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 10-12, 14, 19, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by US 3,562,401 (hereafter Long).

Long discloses, referring to figure 4, a superconducting cable comprising at least a superconducting conductor (16) and a cryostat positioned externally to the superconducting conductor, said cryostat including a thermal insulation (74) enclosed between an inner (44) and an outer (64) coaxial tubes, wherein a protecting element (19) is provided between the superconducting conductor and the inner tube of the cryostat [claims 1, 19, 20], wherein the protecting element provided between the superconducting conductor and the inner tube has a substantially constant thickness [claim 2], wherein the protecting element has a smooth internal surface [claim 3], wherein the protecting element has a firm and flexible external surface [claim 4], wherein the protecting element comprises one or more layers [claim 5].

Similarly, Long discloses, referring to figure 1, a superconducting cable comprising at least a superconducting conductor (10) and a cryostat positioned externally to the superconducting conductor, said cryostat including a thermal insulation (70) enclosed between an inner (40) and an outer (60) coaxial tubes, wherein a

Art Unit: 2827

protecting element (50) is provided between the superconducting conductor and the inner tube of the cryostat [claims 1, 19, 20], wherein the protecting element comprises one or more layers [claim 5], wherein the layers of the protecting element comprises at least one tape, wire, sheet or combination thereof (see col. 4, lines 30-45) [claim 14], wherein the protecting element comprises a material selected from polymeric materials, metals, carbon paper, kraft paper, and combination thereof [claim 10], wherein the protecting element is made of polymeric material [claim 11], wherein the protecting element is made of polytetrafluoroethylene (see col. 4, lines 35-45) [claim 12].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Long.

Long discloses the claimed invention as described above except Long does not specifically state the size or range of sizes for the protecting element. However, such a modification would have been obvious to one of ordinary skill in the art as a mere change in size. Additionally, a change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Moreover, it has been held that where the general conditions of a claim are disclosed in

Art Unit: 2827

the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Long in view of US 3,631,519 (hereafter Salahshourian).

Long discloses the claimed invention as described above with respect to claim 10 except Long does not specifically state that the protecting elements comprise copper. However, it is notoriously well known in the art to use copper to comprise conductive shields in cable as evidenced by Salahshourian (see col. 2, lines 55-65). Therefore, it would have been obvious, to one having ordinary skill in the art, at the time of invention, to use copper for the protecting element in Long as is known in the art and evidenced by Salahshourian. Moreover, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Long in view of US 6,512,311 (hereafter Metra).

Long discloses the claimed invention as described above except, while Long does mention that liquid nitrogen is used for cooling (see col. 3, lines 60-65), Long does not specifically mention that the temperature is typically of from about 65 to about 90 K. However, it would have been obvious, to one having ordinary skill in the art, at the time of invention, to use liquid nitrogen at that temperature as it is well known in the art that

Art Unit: 2827

this is the proper temperature range for liquid nitrogen as used in superconductive applications. Metra gives evidence of such knowledge being within the scope of the prior art (see col. 6, lines 35-45). Moreover, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Long in view of US 6,509,819 (hereafter Snitchler).

Long discloses the claimed invention as described above with respect to claim 1, except Long does not specifically state that the superconducting material is an oxide of bismuth, lead, strontium, calcium, and copper (e.g. BSCCO). However, it would have been obvious, to one having ordinary skill in the art, at the time of invention, to use BSCCO in place of the niobium superconducting material in Long as it well known that niobium based superconductors and BSCCO based superconductors are interchangeable, art recognized equivalents. Such recognition as equivalent is given by Snitchler (see col. 1, lines 20-35). Moreover, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Response to Arguments

Applicant's arguments with respect to claims 1-14 and 17-20 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

Claims 15 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 3,686,423 granted to Doose et al..

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy C. Norris whose telephone number is 703-306-5737. The examiner can normally be reached on Mon.-Th., 9AM - 6:30 PM and alt. Fri. 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on 703-305-9883. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JCSN

John B. Vigushin
John B. Vigushin
Primary Examiner
AU 2827